ICF-CS970L

SERVICE MANUAL

AEP Model
UK Model

SPECIFICATIONS

Frequency range	FM: 87.6 — 107.5 MHz MW: 531 — 1,602 kHz LW: 153 — 255 kHz
Antennas	FM: AC power cord antenna MW,LW:Built-in ferrite bar antenna
Speakers	Full-range: 7.7 cm (3⅛ inches) dia. Super woofer: 7.7 cm (3⅛ inches) dia.
Power output	1.2W + 1.2W (at 10 % harmonic distortion) Super woofer 2.4W
Inputs	LINE IN (stereo mini jack) Sensitivity 0.44V Input impedance 47 kOhm
Power requirement	UK model: 240V AC, 50 Hz Model for continental European countries: 220V AC, 50 Hz For power backup function: 9 V DC, one 6F22 battery
Battery life	Approx. 40 hours, using Sony-battery S-006P(U)
Time display	UK model: 12-hour system Model for continental European countries: 24-hour system
Dimensions	Approx. 370 × 140 × 120 mm (w/h/d) (14⅝ × 5⅝ × 4¾ inches) not incl. projecting parts and controls
Weight	Approx. 2.4 kg (5lb 5 oz) not incl. battery.

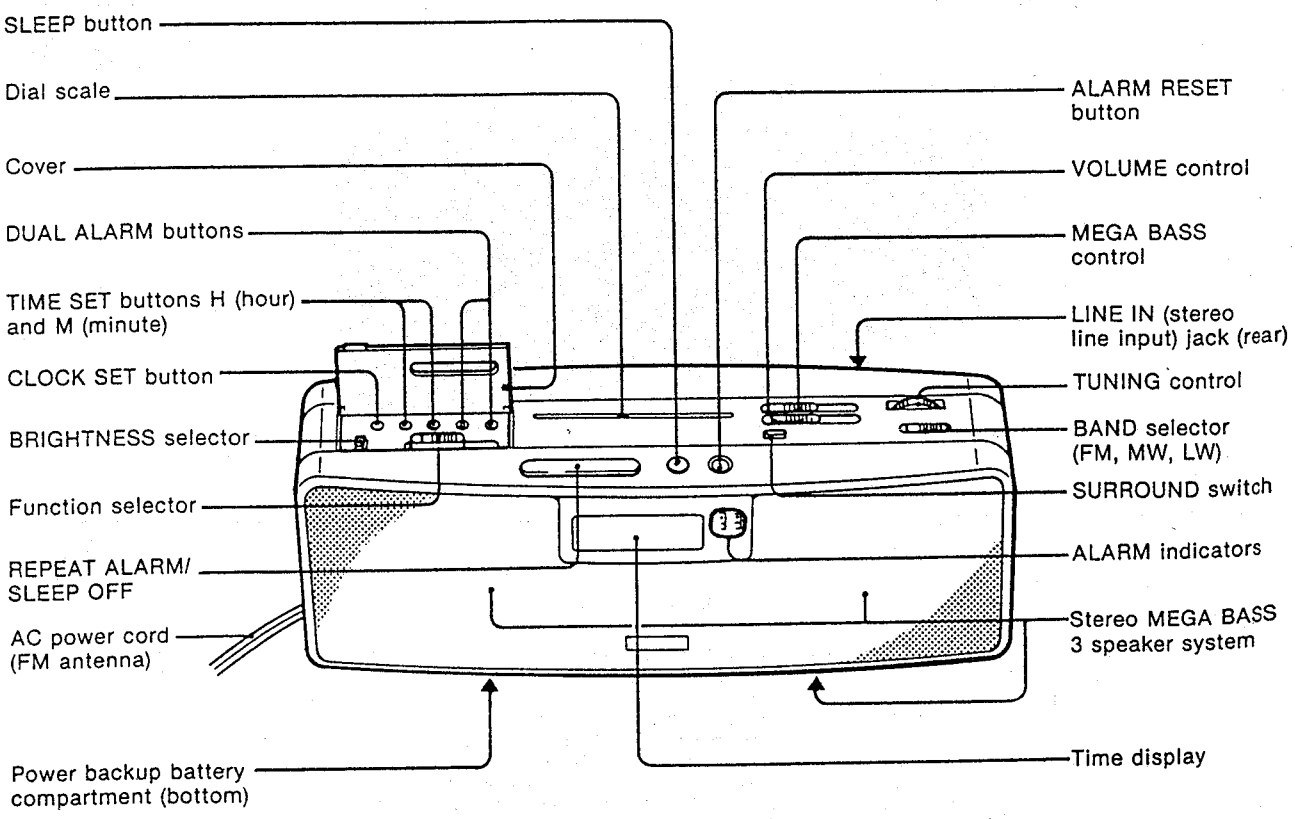
Design and specifications subject to change without notice.

DUAL ALARM AM/FM STEREO DIGITAL CLOCK RADIO

SONY®

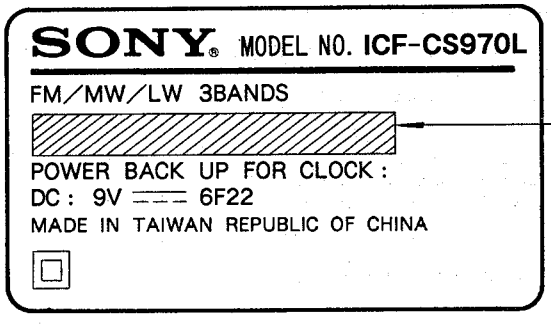
SECTION 1
GENERAL

LOCATION AND FUNCTION OF CONTROLS



— MODEL IDENTIFICATION —

— Specification Label —



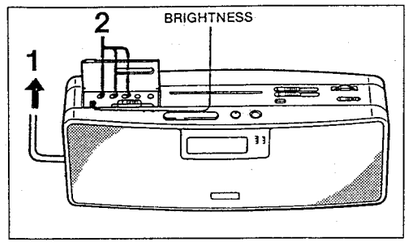
AEP Model : AC : 220V~50Hz 13W

UK Model : AC : 240V~50Hz 13W

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

How to Set the Clock

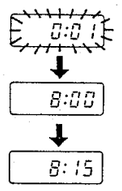


1 Connect the AC power cord to a wall outlet
Figures will appear and begin to blink.

2 Open the cover and adjust the clock to the current time with the TIME SET buttons, H (hour) and M (minute), while holding down the CLOCK SET button.

The hour and minute digits advance independently. The minute digits return to "00" after reaching "59".

Example:
To set to 8:15



The illustration of the time display is for the continental European model.

12-hour system (model for the United Kingdom)	24-hour sytem (Model for continental European countries)
AM 12:00 = midnight PM 12:00 = noon	0:00 = midnight 12:00 = noon

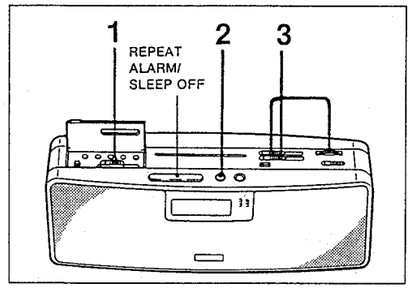
To advance the minute digits rapidly
Keep the H and M buttons pressed while holding down the CLOCK SET button.

To change the brightness of the time display
Open the cover and set the BRIGHTNESS selector to either L or H.

Zero second adjustment
Example: To set to 7:15
1 Adjust the time to 7:14 as previously described.
2 Press CLOCK SET button and M button simultaneously with the radio or telephone time signal, and then release.

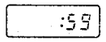
How to Set the Sleep Timer

By using the sleep timer, you can fall asleep while listening to the radio. You can set the sleep time so that the radio turns off up to 59 minutes later.

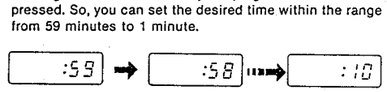


1 Set the function selector to RADIO OFF.

2 Press the SLEEP button.
The radio turns on. The radio will turn off after 59 minutes.



To set the desired time
The digits will be reduced by keeping the SLEEP button pressed. So, you can set the desired time within the range from 59 minutes to 1 minute.



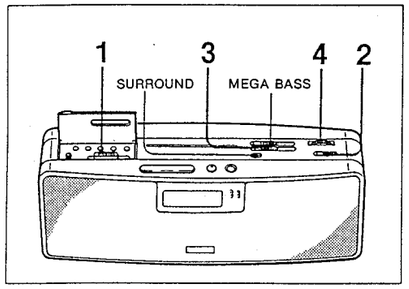
3 Tune in the desired station and adjust the volume.
The radio will turn off automatically after the preset time had elapsed.

To turn off the radio before the preset time, press REPEAT ALARM/SLEEP OFF (which cancels the "sleep timer" function).

To check the remaining minutes, press the SLEEP button lightly.

If the preset alarm time comes while the sleep timer is operating, the alarm buzzer will not sound.

Radio Operation



1 Set the function selector to RADIO ON.
2 Select the desired band (FM, MW, or LW).
3 Adjust the VOLUME control to get sound.
4 Tune in the desired station and adjust the volume.

To turn off the radio, set the function selector to OFF.

To adjust the sound quality

To obtain powerful bass
The "MEGA BASS" system gives powerful bass through the super woofer added to a normal speaker system.
To increase the bass, slide the MEGA BASS control toward MAX.

To enjoy external sound
You can enjoy a portable CD player to be connected to the LINE IN (stereo line input) jack. Set the function selector to RADIO ON when the LINE IN jack is used.

To bring about the stereo effect, press the SURROUND switch.

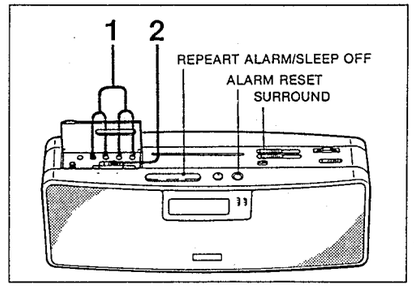
Note: If the program source is monaural, the surround effect cannot be obtained.

To improve receiving condition

FM: Since the AC power cord serves as an FM antenna, extend it for better reception.
MW/LW: Since the reception is affected by the direction of the radio, rotate the radio horizontally for optimum reception.

In weak signal areas, stereo sound may be changed to monaural sound automatically.

How to Set the Alarm



1 Set the alarm time for radio or buzzer.
Open the cover and set the radio alarm time with TIME SET H and M while holding down ALARM [A] RADIO.
Set the buzzer alarm time with TIME SET H and M while holding down ALARM [B] BUZZER.

To advance the minute digits rapidly
Keep the H and M buttons pressed while holding down the ALARM button.

2 Set the function selector to the desired alarm position:
for radio alarm, to [A] RADIO, for buzzer alarm, to [B] BUZZER, for both radio and buzzer alarm, to DUAL ALARM.

For radio alarm
Tune in the desired station and adjust the VOLUME and MEGA BASS controls and the SURROUND switch as described in "Radio operation" on page 6.

Notice for dual alarm
- If you set the radio and the buzzer to the same time, only the radio sound will be heard
- If the buzzer alarm is set to the time before the radio alarm stops, the alarm shifts from radio to buzzer at the alarm preset time.

The desired alarm will automatically sound at the preset time, and automatically turn itself off after about 59 minutes.

If you want to listen to the radio continuously, set the function selector to RADIO ON.

Note on volume adjustment
The buzzer sound level is fixed, and independent of the VOLUME control setting. For radio alarm, however, be sure to adjust the volume.

To stop the radio or buzzer sound, set the function selector to OFF or press the ALARM RESET button.

Repeat alarm function
If you wake to the alarm sound in the morning but want to doze for a few more minutes, just lightly press the REPEAT ALARM/SLEEP OFF.
The alarm sound will be silenced, but will automatically come on again after about nine minutes. If you want to doze more, press the bar again. You can repeat this snooze function as many times as you like. If you do not want the alarm sound any more after pressing the bar, press the ALARM RESET button.

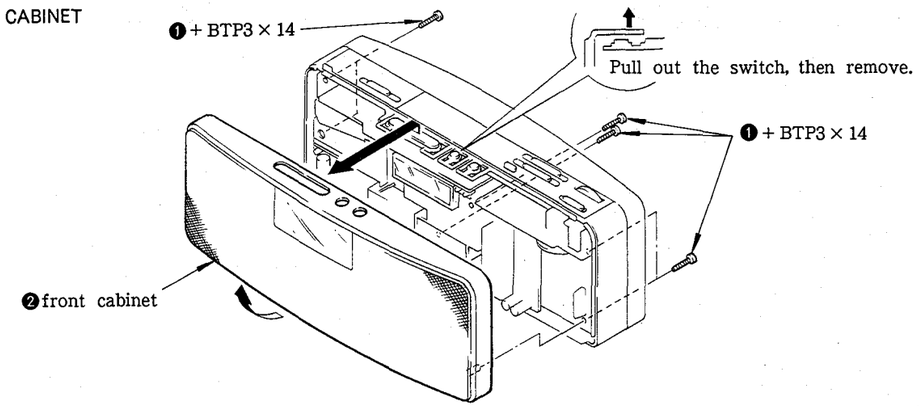
To wake to the alarm sound at the same time the next day
Stop the radio or buzzer sound by pressing the ALARM RESET button. Leave the function selector as it is.

To check the preset time
Press the ALARM button, [A] RADIO to check the radio preset time, and [B] BUZZER for the buzzer.

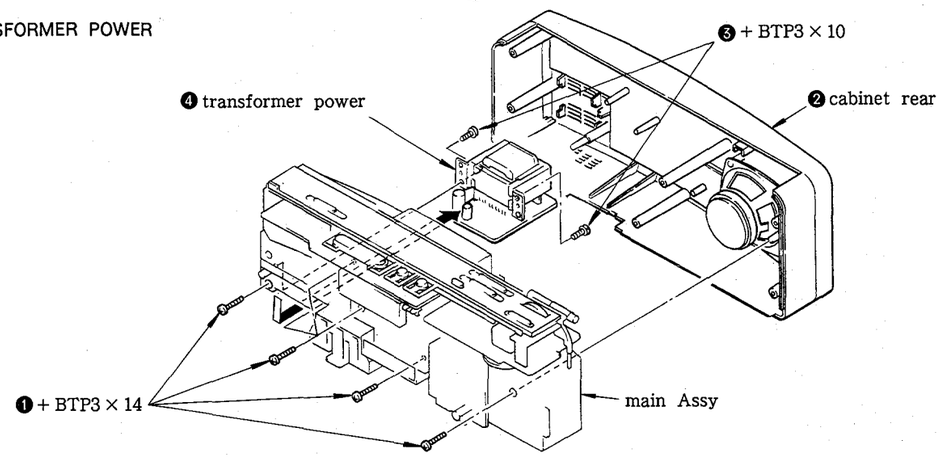
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

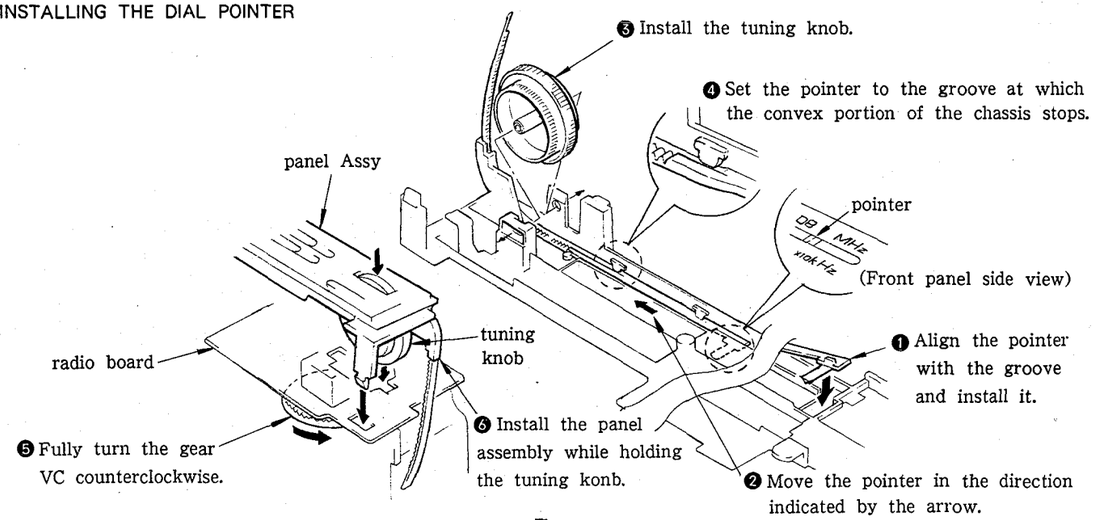
FRONT CABINET



TRANSFORMER POWER



INSTALLING THE DIAL POINTER

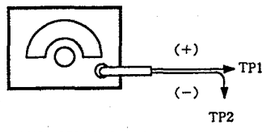

❸ Install the tuning knob.
❹ Set the pointer to the groove at which the convex portion of the chassis stops.
panel Assy
pointer
(Front panel side view)
radio board
tuning knob
❶ Align the pointer with the groove and install it.
❺ Fully turn the gear VC counterclockwise.
❻ Install the panel assembly while holding the tuning konb.
❷ Move the pointer in the direction indicated by the arrow.

SECTION 3
ELECTRICAL ADJUSTMENTS

RADIO SECTION

FM Section

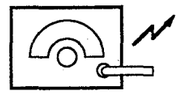
FM rf signal generator



400Hz, 30% FM modulation
frequency deviation ±22.5kHz
output level : at low as possible

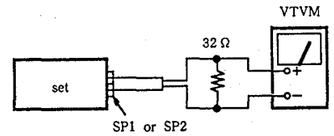
AM Section

AM rf signal generator



Put the lead-wire antenna close to the set.

400Hz, 30%
AM modulation
Output level : as low as possible



● Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5	87.3MHz
CT3	108.3MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3 L4	87.3MHz
CT2	108.3MHz

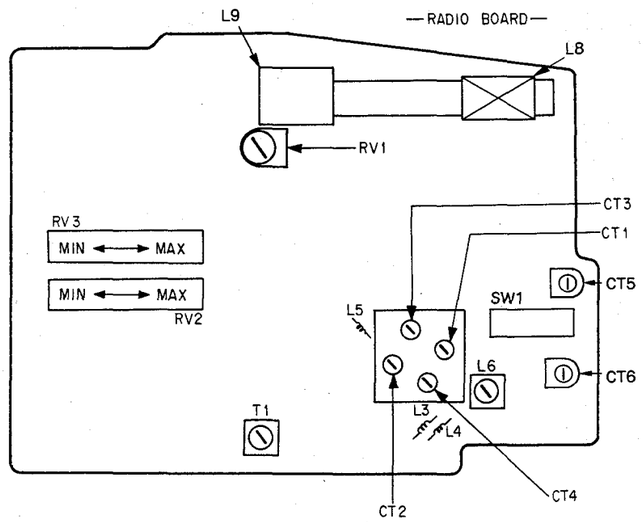
AM IF ALIGNMENT
Adjust for a maximum reading on VTVM.
T1
455kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L6	516kHz
CT4	1,630kHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L9	600kHz
CT1	1,400kHz

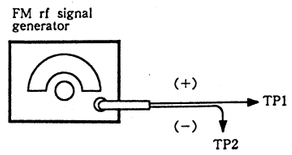
LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT6	265kHz

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L8	160kHz
CT5	240kHz



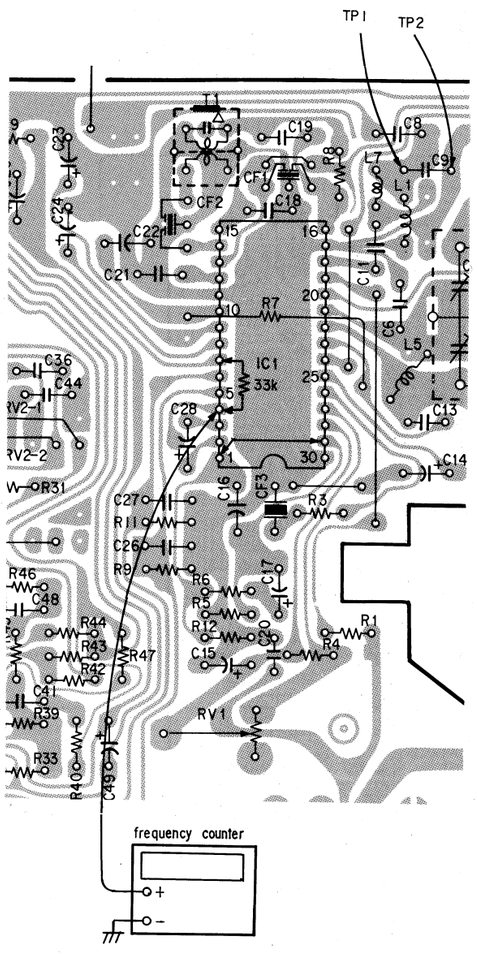
VCO Adjustment

Procedure :



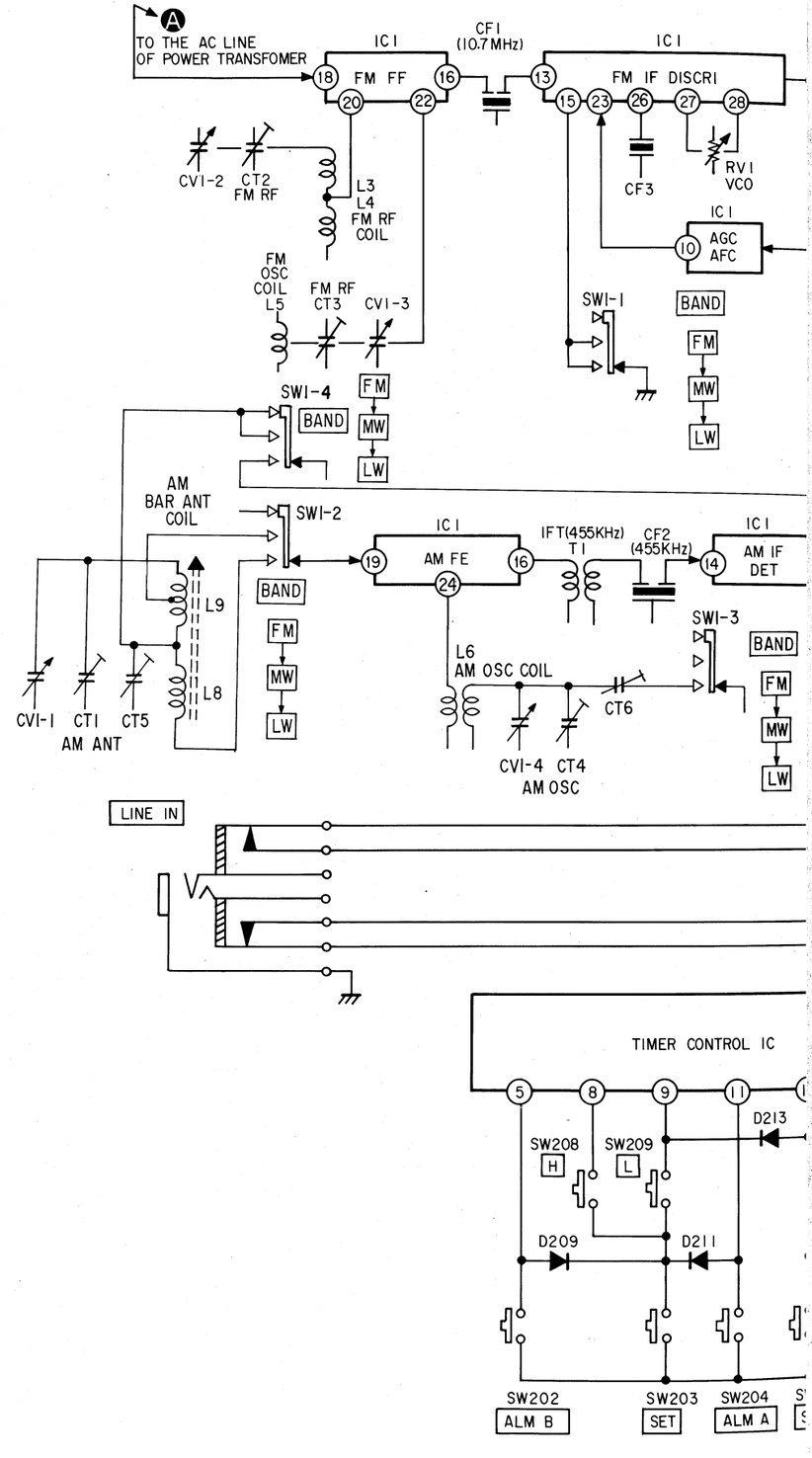
Carrier frequency : 98MHz
1kHz, 30% FM modulation
frequency deviation ±22.5kHz
Output level : 562 μ V (55dB)

1. Connect frequency counter to IC1④pin.
2. Tune the set to 98MHz.
3. Adjust RV1 for 76kHz ±0.15kHz reading on the frequency counter.

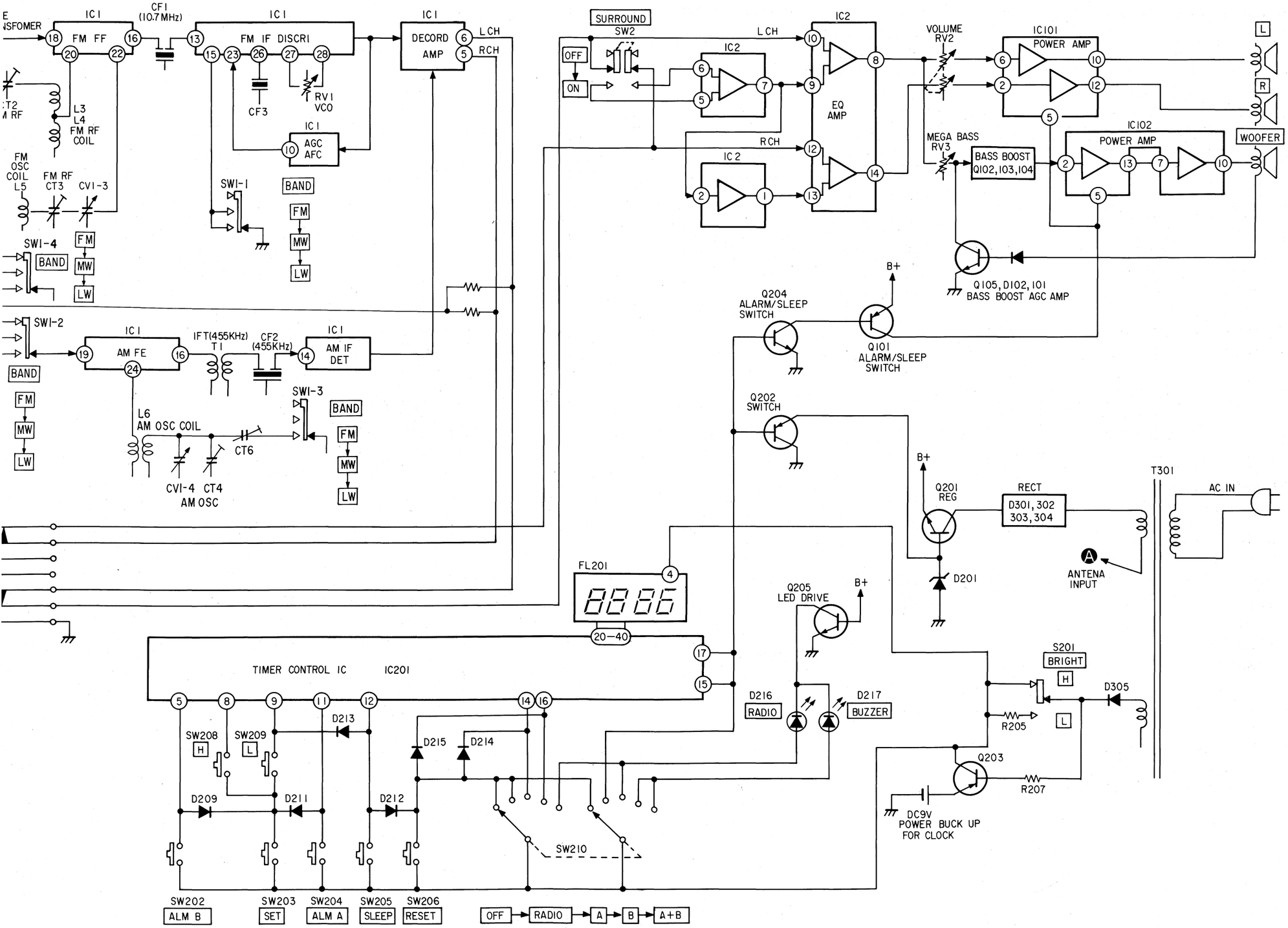


SECTION 4
DIAGRAMS

4 – 1. BLOCK DIAGRAM



SECTION 4
DIAGRAMS



Note on Schematic Diagrams :

- All capacitors are in μ F unless otherwise noted. pF : μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Switch

Ref. No.	Switch	Position
SW1	BAND	FM
SW2	SURROUND	OFF
SW201	BRIGHT	H
SW202	ALM B	OFF
SW203	SET	OFF
SW204	ALM A	OFF
SW205	SLEEP	OFF
SW206	RESET	OFF
SW207	DREAM BAR SNOOZE/SLEEP OFF	OFF
SW208	TIMER SET H	OFF
SW209	TIMER SET L	OFF

- B+ : B+ Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10M Ω) Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

Note on Printed Wiring Boards :

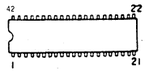
- o— : parts extracted from the component side.
- [ ]← : indicates side identified with part number.

- Semiconductor Location

Ref. No.	Location
D101	H-11
D102	G-11
D201	A-9
D202	B-3
D203	C-3
D204	C-4
D205	B-9
D206	B-10
D207	B-9
D208	B-9
D209	A-3
D211	B-4
D212	A-6
D213	A-8
D214	B-5
D215	B-4
D216	C-10
D217	C-10
D301	D-4
D302	D-2
D303	D-2
D304	D-2
D305	D-2
IC1	E-6
IC2	G-4
IC101	F-7
IC102	G-11
IC201	B-7
Q101	F-11
Q102	G-11
Q103	F-11
Q104	F-11
Q105	B-10
Q201	A-10
Q202	A-10
Q203	C-4
Q204	B-9
Q205	B-10

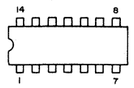
- Semiconductor Laed Layouts

CXA1238S



(Top view)

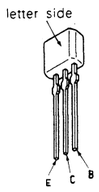
LA4597
LM8364
μ PC3040



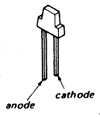
(TOP VIEW)

DTC124ES

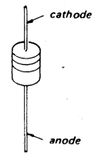
2SA1175HFE
2SC2785HFE



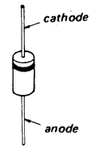
PR5638S



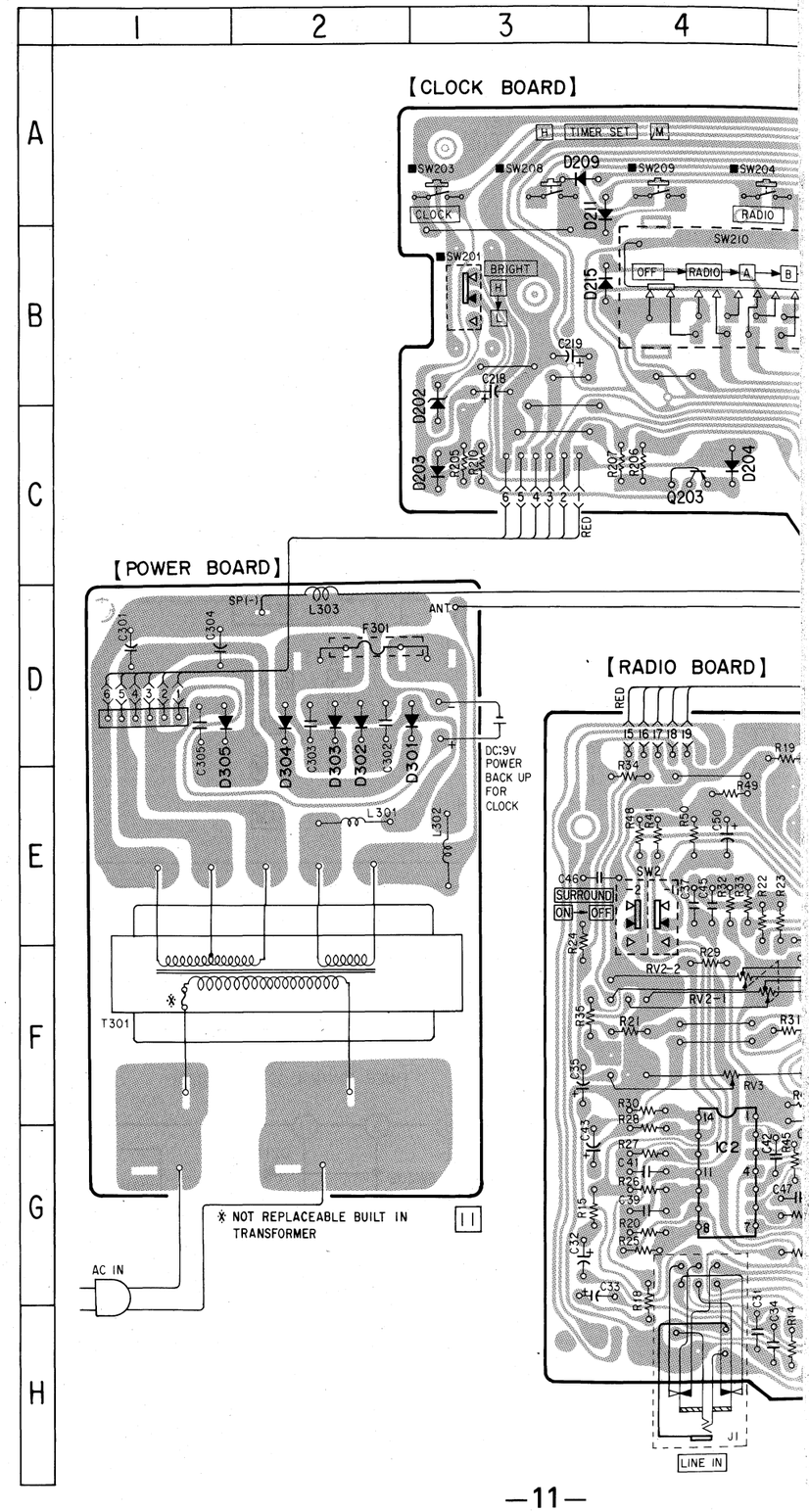
RD6.2ESB2
RD7.5ESB2



10E2
1SS119



4 – 2. PRINTED WIRING BOARDS



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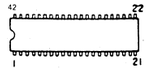
D206	B-10
D207	B-9
D208	B-9
D209	A-3
D211	B-4
D212	A-6
D213	A-8
D214	B-5
D215	B-4
D216	C-10
D217	C-10
D301	D-4
D302	D-2
D303	D-2
D304	D-2
D305	D-2
IC1	E-6
IC2	G-4
IC101	F-7
IC102	G-11
IC201	B-7
Q101	F-11
Q102	G-11
Q103	F-11
Q104	F-11
Q105	B-10
Q201	A-10
Q202	A-10
Q203	C-4
Q204	B-9
Q205	B-10

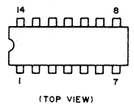
- Semiconductor Laed Layouts

CXA1238S



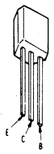
(Top view)

LA4597
LM8364
μPC3040

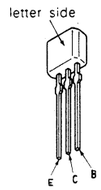


(TOP VIEW)

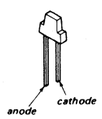
DTC124ES



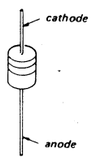
2SA1175HFE
2SC2785HFE



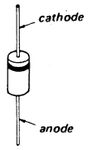
PR5638S



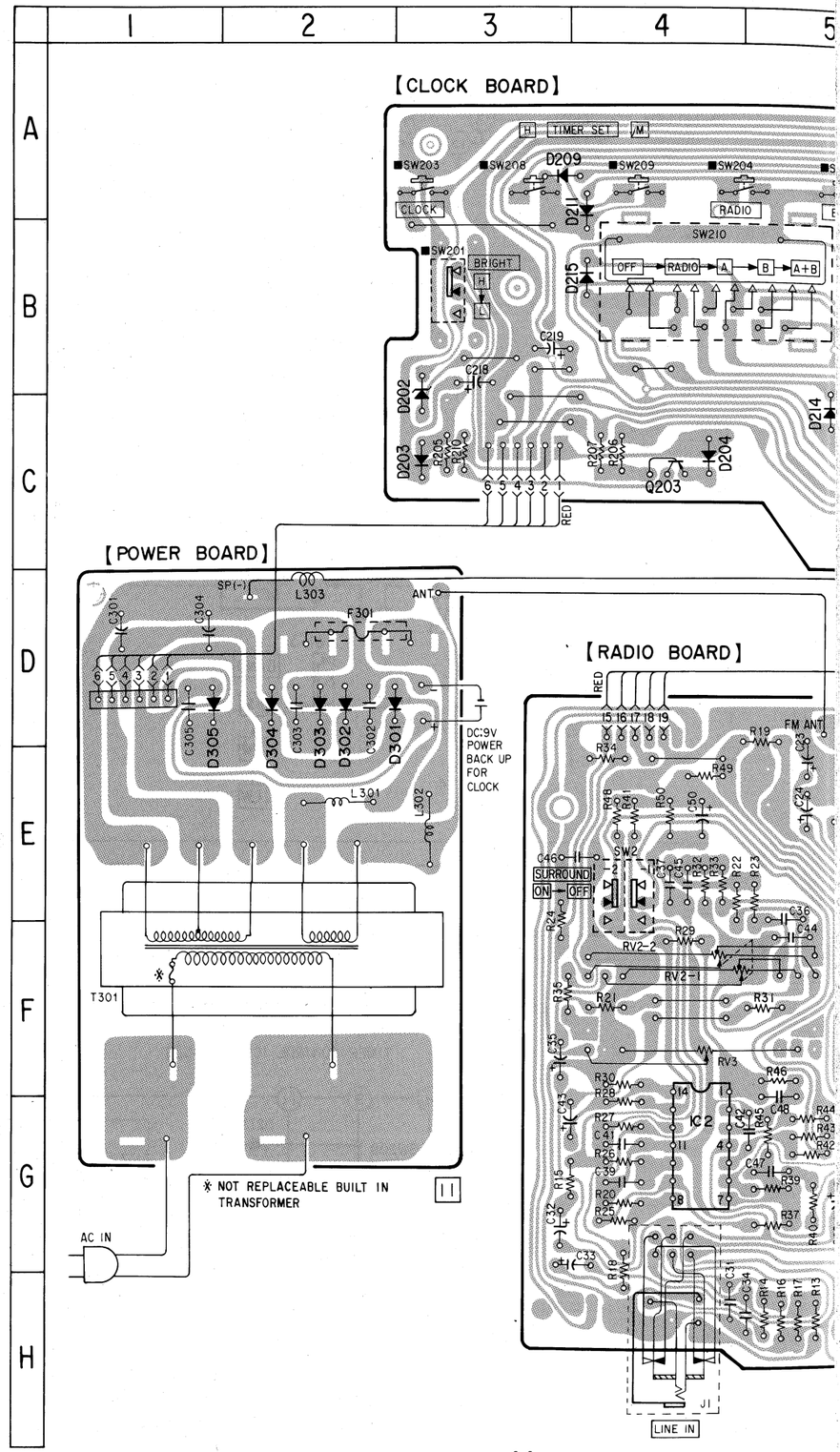
RD6.2ESB2
RD7.5ESB2



10E2
1SS119

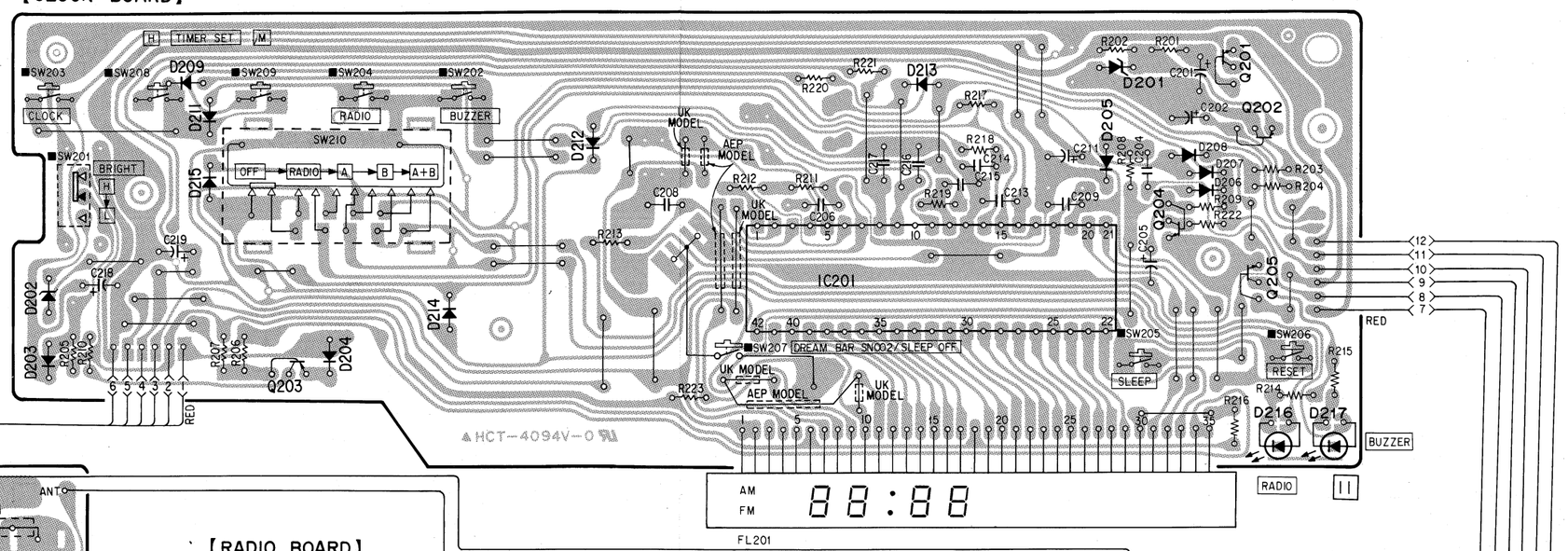


4 – 2. PRINTED WIRING BOARDS

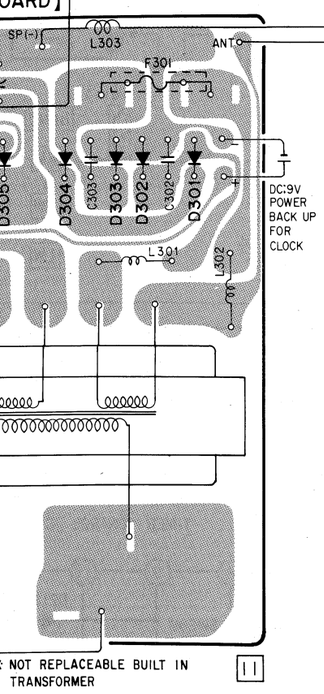


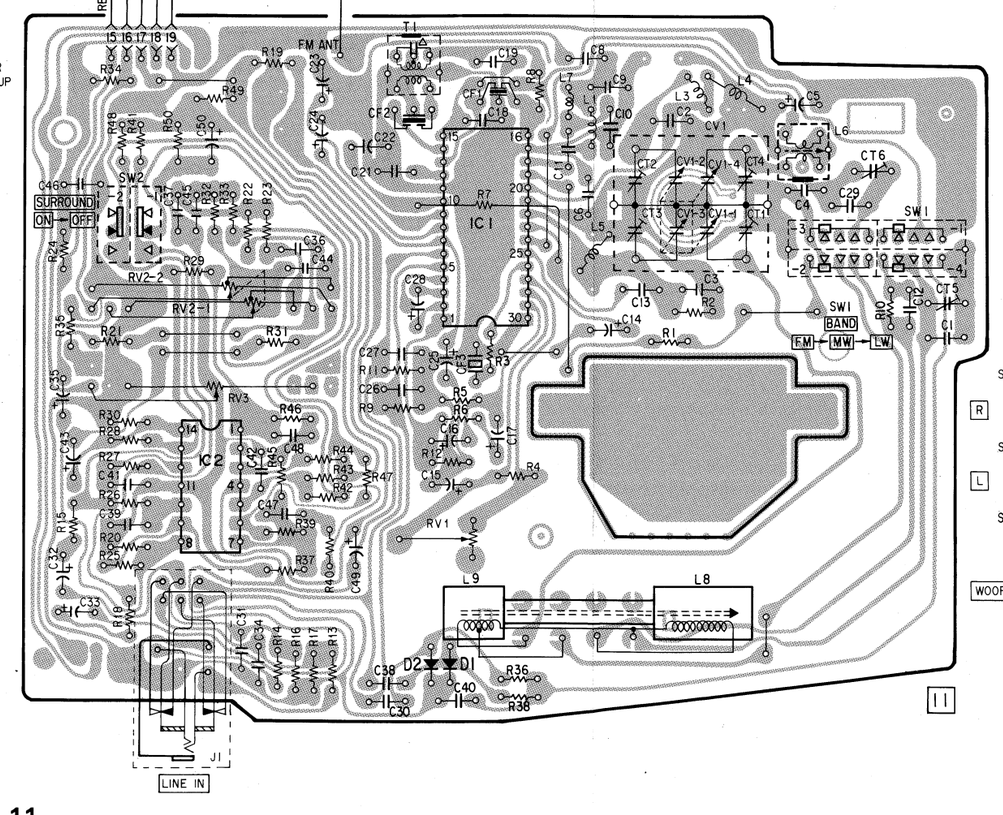
2	3	4	5	6	7	8	9	10	11	12

【CLOCK BOARD】

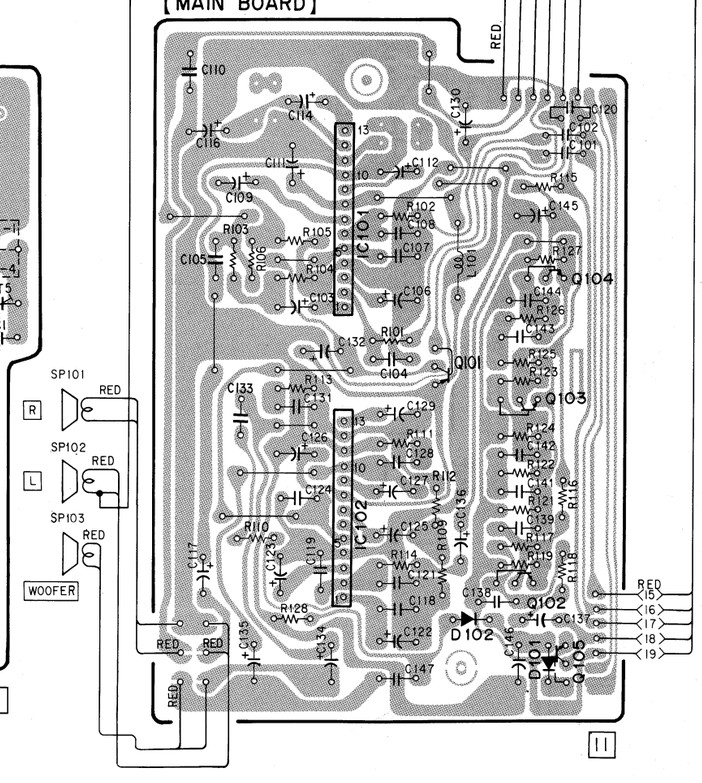


【RADIO BOARD】

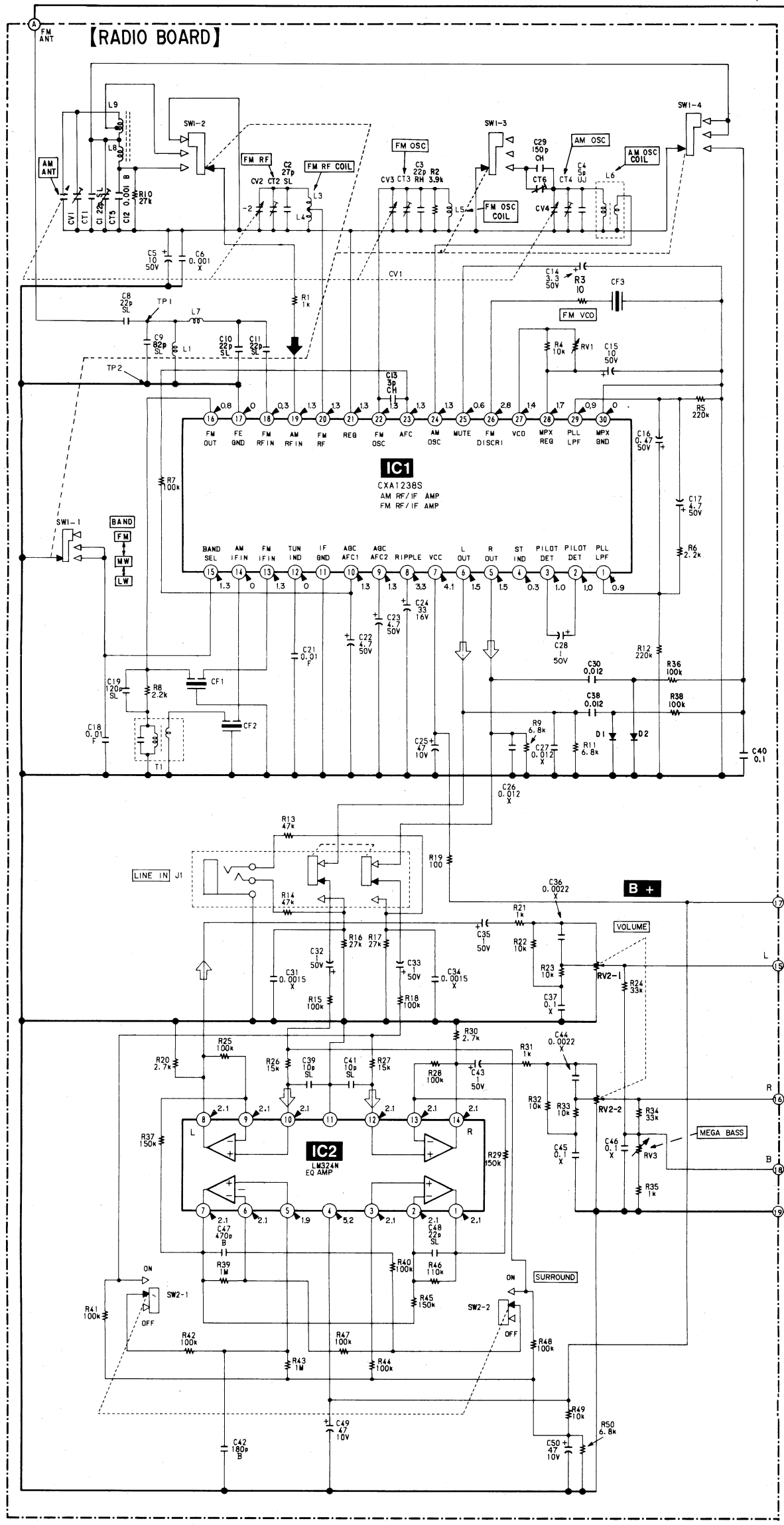




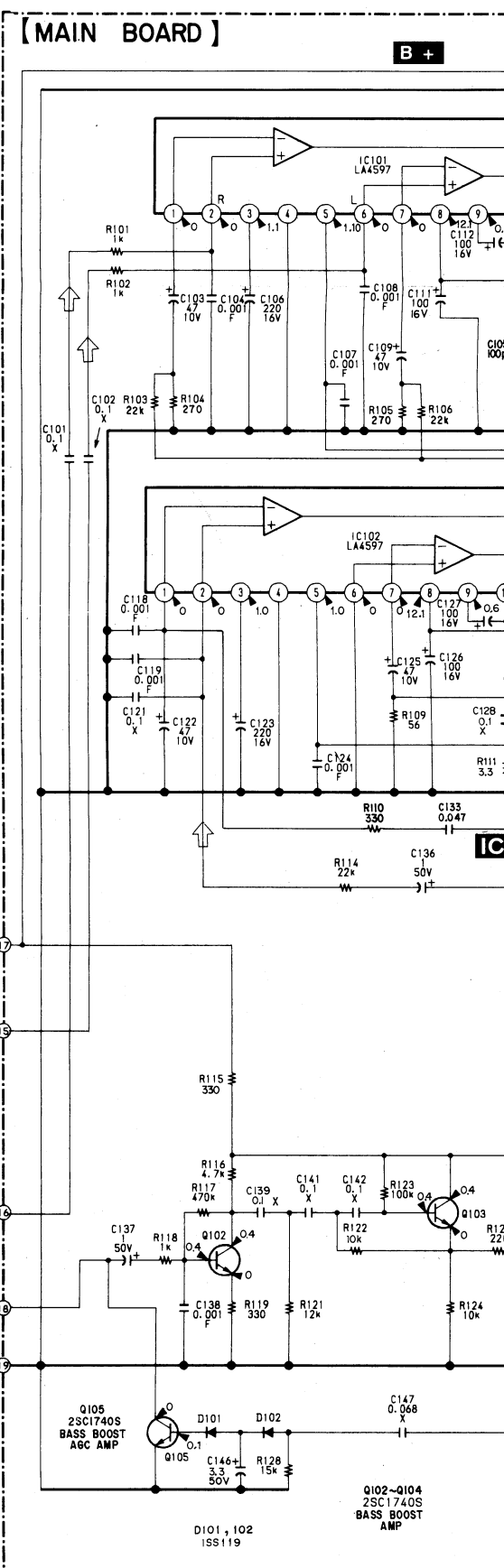
【MAIN BOARD】



【RADIO BOARD】



【MAIN BOARD】



[CLOCK BOARD]

B +

ANT

D301 ~ D304 10E2 RECT

D301 D302 D303 D304

T301

L303 39μH

SP(-)

L302

F301 2.5A

L301

ACIN

C301 2200 16V

C302 0.01 F

C303 0.01 F

D305 10E2

C304 470 25V

D305

C305 0.01 F

9V

BATT 006P POWER BACK UP FOR CLOCK

※NOT REPLACEABLE BUILT IN TRANSFORMER

REG Q201 2SC2785HFE

SWITCH Q202 2SA1175HFE

R201 470

R202 2.2k

R203 4.7k

R204 4.7k

C201 100 10V

C202 22 25V

D201 RD6.2ES B2

C120 0.01 X

SP101

SP102

C114 100 16V

C116 220 10V

C117 220 10V

C130 10 50V

C105 100p

C110 100p

C108 0.001 F

C111 100 16V

C112 100 16V

C109 47 10V

R105 270

R106 22k

L101

IC101 LA4597

IC102 LA4597

Q101 2SA933S ALARM/SLEEP SWITCH

WOOFER

SP103

C134 1000 10V

C135 1000 10V

C132 100 16V

C125 47 10V

C126 100 16V

C127 100 16V

C129 100 16V

C131 0.1 X

C128 0.1 X

R109 56

R111 3.3

R112 10k

R113 3.3

R110 330

C133 0.047

C136 1 50V

IC101,102

LA 4597 POWER AMP

R205 680

D203

D204

D202 RD7.5ESB2

SW201

BRIGHT

R206 33k

C218 220 25V

R207 10k

Q203 2SB1013 +B SWITCH

R210 100

D203 - 209, D211 - 215 1SS119

C219 10 50V

SW207 OFF RADIO

SW210 A B A+B

SW202 ALM B

SW203 SET

SW204 ALM A

SW205 SLEEP

SW206 RESET

SNOOZE LITE

D209 D211 D212

D214 D215

D216 A B D217

R214 1.2k

R215 2.2k

D216, 217 PR5638S

Q205 DTC124ES LED DRIVE

SW208 H

SW209 M

R222 22k

C204 0.01 X

ALARM/SLEEP SWITCH Q204 DTC124ES

D208

R208 22k

D205

R209 10k

C205 10 25V

R213 100k

C217 470p B

R211 150k

D206

D207

C206 0.0068 V

R200 470

R212 8.2k

C208 0.01 F

R220 22k

D213

R221 22k

C216 470p B

R219 22k

R218 10k

R217 10k

C213 470p B

C214 470p B

C209 0.01 X

C211 47 25V

C215 470p B

UK MODEL

AEP MODEL

IC201 LM8364DH TIMER CONTROL

1.970Hz 7.5Vp-p

CR IN, PM OUT, 1HZ OUT, 24/12 SEL, ALM21N, 50/60 SEL, 50/60 IN, UP SET, LOW SET, SECOND IN, ALM1 IN, SLEEP IN, VDD, ALM2 OFF IN, SLEEP OUT, ALM1 OFF IN, ALM1 OUT, SNOOZE IN, VSS, M-c, M-d

ALM2 OUT, AM OUT, 10H-b c, H-f, H-g, H-a, H-b, H-d, H-c, H-e, 10M-f, 10M-g, 10M-a d, 10M-b, 10M-e, 10M-c, M-f, M-g, M-a, M-b, M-e

R216 10k

R223 1M

FL 201

C142 0.1 X

R123 100k

Q103

R125 22k

R126 22k

Q104

C143 0.1 X

R122 10k

R124 10k

C144 0.047 X

R127 10k

C145 220 10V

C147 0.068 X

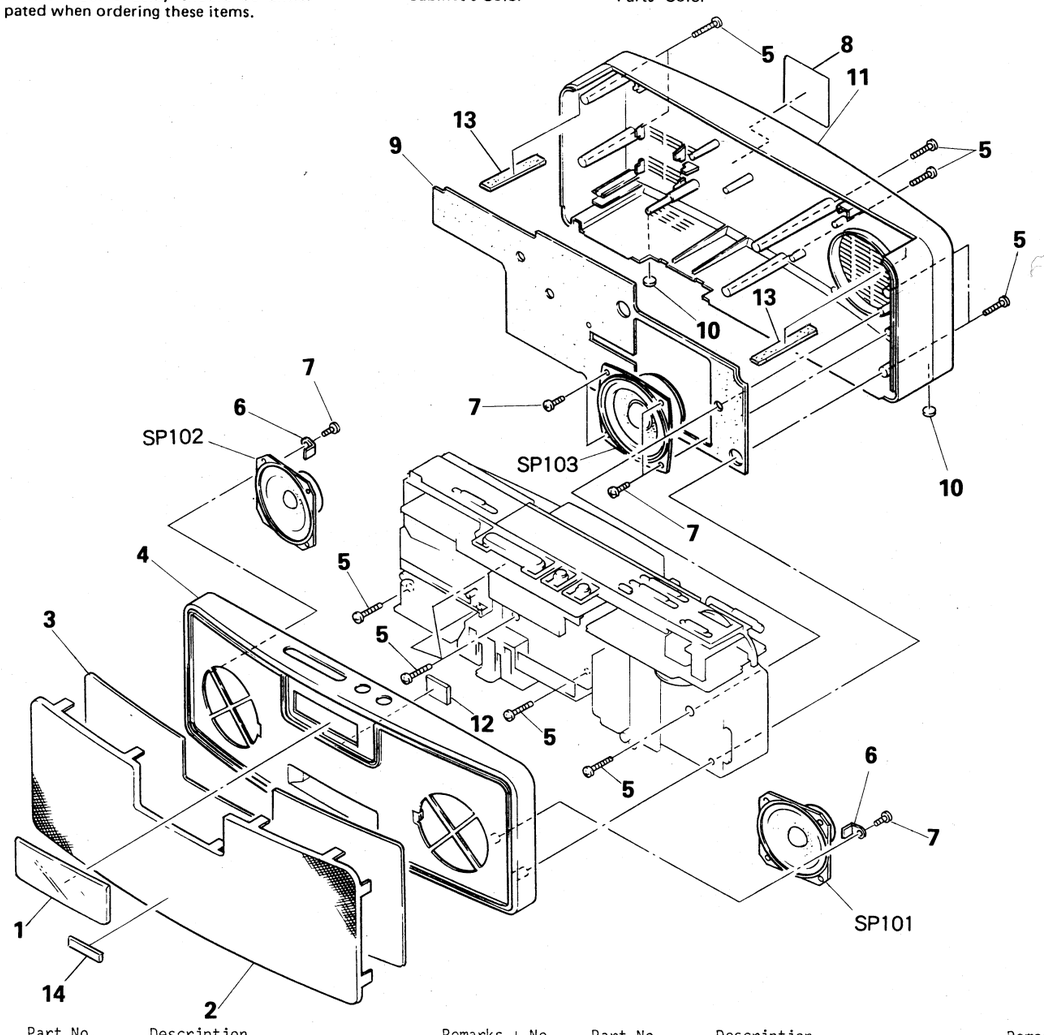
Q102~Q104 2SC1740S BASS BOOST AMP

SECTION 5
EXPLODED VIEWS

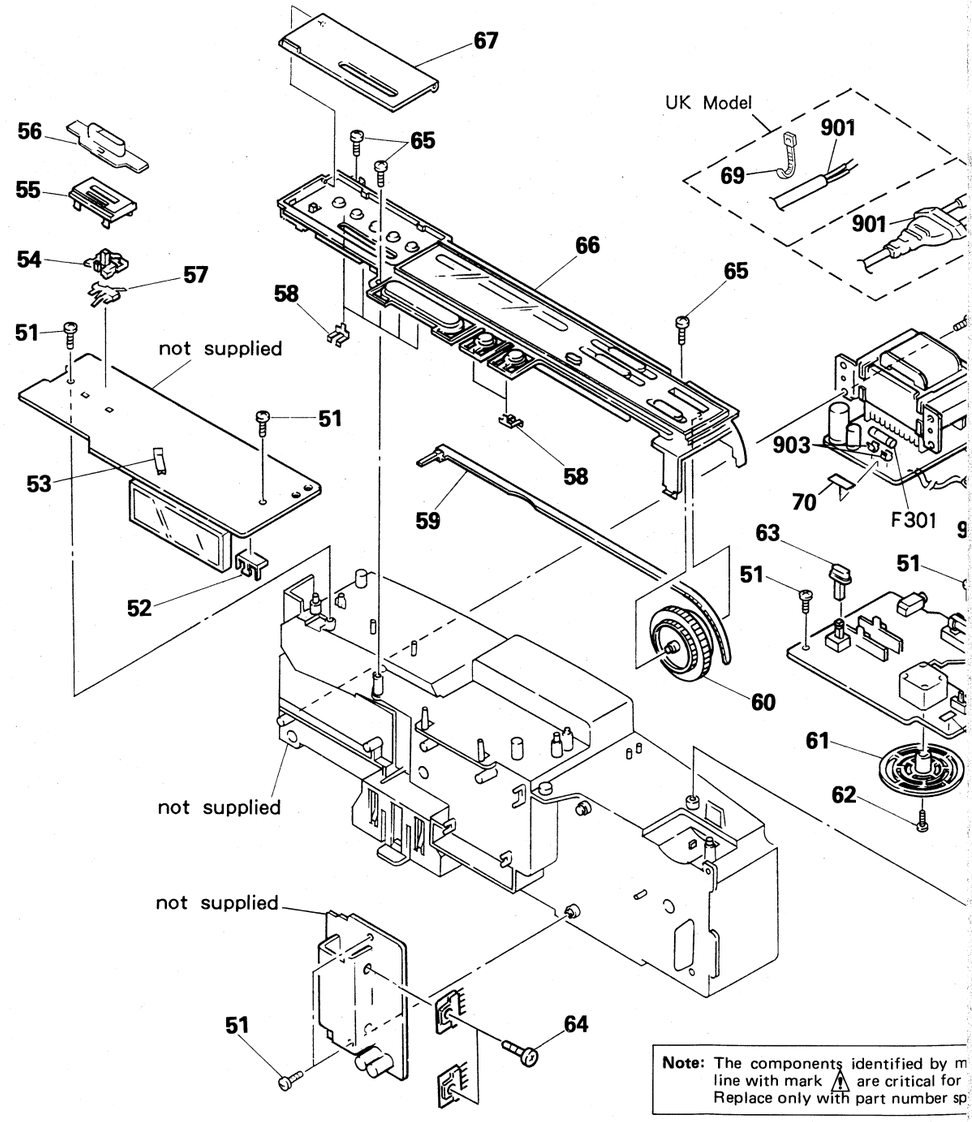
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

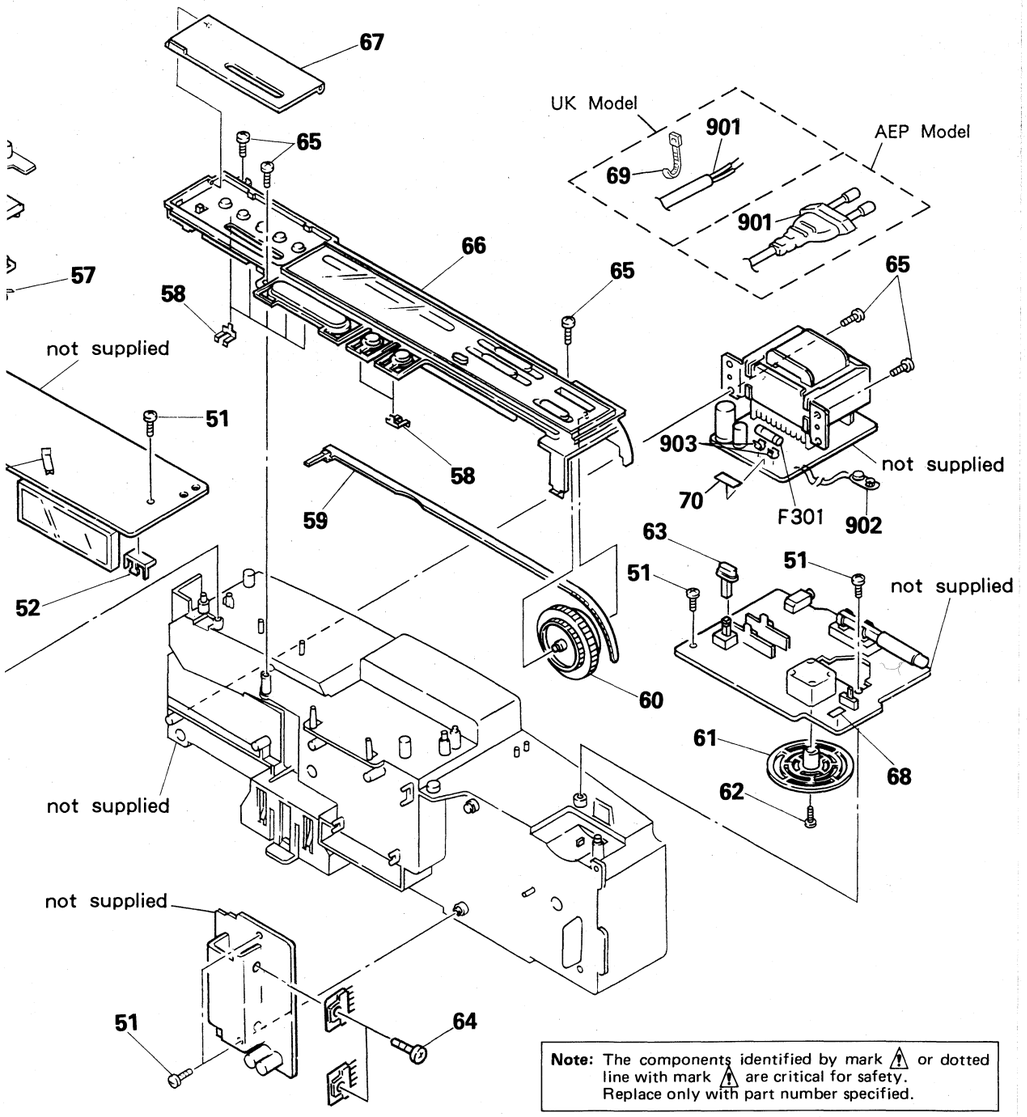


No.	Part No.	Description	Remarks
1	3-901-726-01	PLATE, TRANSPARENT	
2	3-901-744-01	NET, SPEAKER	
3	3-902-010-01	CUSHION (SPEAKER)	
4	3-901-745-21	CABINET, FRONT	
5	7-685-649-79	SCREW +BTP 3X14 TYPE2 N-S	
6	3-593-019-00	CLAW, SPEAKER	
7	7-685-546-14	SCREW +BTP 3X8 TYPE2 N-S	
8	*3-902-098-01	(UK)....LABEL, MODEL NUMBER	
	*3-902-401-01	(AEP)...LABEL, MODEL NUMBER (AE9)	
9	*3-901-742-01	SPACER	
10	3-901-731-01	FOOT, RUBBER	
11	3-901-746-21	CABINET, REAR	
12	9-911-844-XX	CUSHION	
13	3-831-441-11	CUSHION, SIDE PLATE	
14	3-901-791-01	EMBLEM (5.5-A), SONY	
SP101	1-544-123-11	SPEAKER (R)	
SP102	1-544-123-11	SPEAKER (L)	
SP103	1-544-124-11	SPEAKER	



Note: The components identified by m
line with mark ⚠ are critical for
Replace only with part number sp

No.	Part No.	Description	Remarks
51	7-685-546-14	SCREW +BTP 3X8 TYPE2 N-S	
52	*3-901-733-01	HOLDER, LED	
53	*3-888-208-11	PLATE, CONTACT, SNOOZE	
54	*3-986-302-01	SLIDER (FUNCTION)	
55	*3-986-307-01	HOLDER (FUNCTION)	
56	3-901-737-01	KNOB (FUNCTION)	
57	3-986-301-01	PLATE (FUNCTION), CONTACT	
58	3-901-705-01	PLATE, CONTACT	
59	3-901-740-01	POINTER, DIAL	
60	*3-901-738-01	KNOB (TUNE)	
61	*3-901-741-01	GEAR, VC	
62	7-621-773-86	SCREW +P 2.6X4	
63	3-901-727-01	BUTTON (SURROUND)	
64	7-621-770-67	SCREW +B 2.6X6	
65	7-685-647-79	SCREW +BTP 3X10 TYPE2 N-	
66	A-3635-298-A	PANEL ASSY, TOP	
67	3-901-734-01	LID (CLOCK)	
68	9-911-837-XX	CUSHION	
69	3-701-748-00	(UK)....CLAMP	
70	3-701-947-15	LABEL (T2.5A), FUSE	
901	⚠1-555-795-00	(AEP)...CORD, POWER	
	⚠1-556-035-00	(UK)....CORD, POWER (2 C	
902	1-535-253-00	SNAP, BATTERY	
903	1-533-183-11	HOLDER, FUSE	
F301	⚠1-532-286-00	FUSE, TIME-LAG (2.5A)	



Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

No.	Part No.	Description	Remarks
	5-546-14	SCREW +BTP 3X8 TYPE2 N-S	
	-733-01	HOLDER, LED	
	3-208-11	PLATE, CONTACT, SNOOZE	
	5-302-01	SLIDER (FUNCTION)	
	5-307-01	HOLDER (FUNCTION)	
	-737-01	KNOB (FUNCTION)	
	5-301-01	PLATE (FUNCTION), CONTACT	
	-705-01	PLATE, CONTACT	
	-740-01	POINTER, DIAL	
	-738-01	KNOB (TUNE)	
	-741-01	GEAR, VC	
	-773-86	SCREW +P 2.6X4	
	-727-01	BUTTON (SURROUND)	
	-770-67	SCREW +B 2.6X6	

No.	Part No.	Description	Remarks
65	7-685-647-79	SCREW +BTP 3X10 TYPE2 N-S	
66	A-3635-298-A	PANEL ASSY, TOP	
67	3-901-734-01	LID (CLOCK)	
68	9-911-837-XX	CUSHION	
69	3-701-748-00	(UK)....CLAMP	
70	3-701-947-15	LABEL (T2.5A), FUSE	
901	⚠1-555-795-00	(AEP)...CORD, POWER	
	⚠1-556-035-00	(UK)....CORD, POWER (2 CORE)	
902	1-535-253-00	SNAP, BATTERY	
903	1-533-183-11	HOLDER, FUSE	
F301	⚠1-532-286-00	FUSE, TIME-LAG (2.5A)	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			
901	⚠1-555-795-00	(AEP)...CORD, POWER			
	⚠1-556-035-00	(UK)....CORD, POWER (2 CORE)			
902	1-535-253-00	SNAP, BATTERY			
903	1-533-183-11	HOLDER, FUSE			
C1	1-102-959-00	CERAMIC	22PF	5%	50V
C2	1-102-961-00	CERAMIC	27PF	5%	50V
C3	1-102-959-00	CERAMIC	22PF	5%	50V
C4	1-102-942-00	CERAMIC	5PF	0.5PF	50V
C5	1-123-875-11	ELECT	10MF	20%	50V
C6	1-161-039-00	CERAMIC	0.001MF	20%	25V
C8	1-102-959-00	CERAMIC	22PF	5%	50V
C9	1-102-971-21	CERAMIC	82PF	10%	50V
C10	1-102-959-00	CERAMIC	22PF	5%	50V
C11	1-102-959-00	CERAMIC	22PF	5%	50V
C12	1-102-074-00	CERAMIC	0.001MF	10%	50V
C13	1-102-936-00	CERAMIC	3PF	0.25PF	50V
C14	1-123-382-00	ELECT	3.3MF	20%	50V
C15	1-123-875-11	ELECT	10MF	20%	50V
C16	1-124-902-00	ELECT	0.47MF	20%	50V
C17	1-124-927-11	ELECT	4.7MF	20%	50V
C18	1-101-004-00	CERAMIC	0.01MF		50V
C19	1-102-951-00	CERAMIC	15PF	5%	50V
C21	1-101-004-00	CERAMIC	0.01MF		50V
C22	1-124-927-11	ELECT	4.7MF	20%	50V
C23	1-124-927-11	ELECT	4.7MF	20%	50V
C24	1-124-963-11	ELECT	33MF	20%	16V
C25	1-124-446-11	ELECT	47MF	20%	10V
C26	1-161-052-00	CERAMIC	0.012MF	10%	25V
C27	1-161-052-00	CERAMIC	0.012MF	10%	25V
C28	1-124-791-11	ELECT	1MF	20%	50V
C29	1-101-361-00	CERAMIC	150PF	5%	50V
C30	1-161-052-00	CERAMIC	0.012MF	10%	25V
C31	1-161-041-00	CERAMIC	0.0015MF	20%	25V
C32	1-124-791-11	ELECT	1MF	20%	50V
C33	1-124-791-11	ELECT	1MF	20%	50V
C34	1-161-041-00	CERAMIC	0.0015MF	20%	25V
C35	1-124-791-11	ELECT	1MF	20%	50V
C36	1-161-043-00	CERAMIC	0.0022MF	20%	25V
C37	1-162-851-11	CERAMIC	0.1MF	10%	16V
C38	1-161-052-00	CERAMIC	0.012MF	10%	25V
C39	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C40	1-162-851-11	CERAMIC	0.1MF	10%	16V
C41	1-102-947-00	CERAMIC	10PF	0.5PF	50V

Ref.No.	Part No.	Description			
C42	1-102-109-00	CERAMIC	180PF	10%	50V
C43	1-124-791-11	ELECT	1MF	20%	50V
C44	1-161-043-00	CERAMIC	0.0022MF	20%	25V
C45	1-162-851-11	CERAMIC	0.1MF	10%	16V
C46	1-162-851-11	CERAMIC	0.1MF	10%	16V
C47	1-102-114-00	CERAMIC	470PF	10%	50V
C48	1-102-959-00	CERAMIC	22PF	5%	50V
C49	1-124-446-11	ELECT	47MF	20%	10V
C50	1-124-446-11	ELECT	47MF	20%	10V
C101	1-162-851-11	CERAMIC	0.1MF	10%	16V
C102	1-162-851-11	CERAMIC	0.1MF	10%	16V
C103	1-124-446-11	ELECT	47MF	20%	10V
C104	1-101-001-00	CERAMIC	0.001MF		50V
C105	1-102-973-00	CERAMIC	100PF	10%	50V
C106	1-124-120-11	ELECT	220MF	20%	16V
C107	1-101-001-00	CERAMIC	0.001MF		50V
C108	1-101-001-00	CERAMIC	0.001MF		50V
C109	1-124-446-11	ELECT	47MF	20%	10V
C110	1-102-973-00	CERAMIC	100PF	10%	50V
C111	1-126-101-11	ELECT	100MF	20%	16V
C112	1-126-101-11	ELECT	100MF	20%	16V
C114	1-126-101-11	ELECT	100MF	20%	16V
C116	1-126-176-11	ELECT	220MF	20%	10V
C117	1-126-176-11	ELECT	220MF	20%	10V
C118	1-101-001-00	CERAMIC	0.001MF		50V
C119	1-101-001-00	CERAMIC	0.001MF		50V
C120	1-161-051-00	CERAMIC	0.01MF	20%	25V
C121	1-162-851-11	CERAMIC	0.1MF	10%	16V
C122	1-124-446-11	ELECT	47MF	20%	10V
C123	1-124-120-11	ELECT	220MF	20%	16V
C124	1-101-001-00	CERAMIC	0.001MF		50V
C125	1-124-446-11	ELECT	47MF	20%	10V
C126	1-126-101-11	ELECT	100MF	20%	16V
C127	1-126-101-11	ELECT	100MF	20%	16V
C128	1-162-851-11	CERAMIC	0.1MF	10%	16V
C129	1-126-101-11	ELECT	100MF	20%	16V
C130	1-123-875-11	ELECT	10MF	20%	50V
C131	1-162-851-11	CERAMIC	0.1MF	10%	16V
C132	1-126-101-11	ELECT	100MF	20%	16V
C133	1-161-021-11	CERAMIC	0.047MF	10%	25V
C134	1-124-473-11	ELECT	1000MF	20%	10V
C135	1-124-473-11	ELECT	1000MF	20%	10V
C136	1-124-791-11	ELECT	1MF	20%	50V
C137	1-124-791-11	ELECT	1MF	20%	50V
C138	1-101-001-00	CERAMIC	0.001MF		50V

Ref.No.	Part No.	Description			
C139	1-162-851-11	CERAMIC	0.1MF	10%	16V
C141	1-162-851-11	CERAMIC	0.1MF	10%	16V
C142	1-162-851-11	CERAMIC	0.1MF	10%	16V
C143	1-162-851-11	CERAMIC	0.1MF	10%	16V
C144	1-161-021-11	CERAMIC	0.047MF	10%	25V
C145	1-126-176-11	ELECT	220MF	20%	10V
C146	1-123-382-00	ELECT	3.3MF	20%	50V
C147	1-161-061-11	CERAMIC	0.068MF	20%	25V
C201	1-124-443-00	ELECT	100MF	20%	10V
C202	1-124-598-11	ELECT	22MF	20%	25V
C204	1-101-004-00	CERAMIC	0.01MF		50V
C205	1-126-096-11	ELECT	10MF	20%	25V
C206	1-161-049-00	CERAMIC	0.0068MF	5%	25V
C208	1-101-004-00	CERAMIC	0.01MF		50V
C209	1-161-051-00	CERAMIC	0.01MF	20%	25V
C211	1-123-819-91	ELECT	33MF	20%	25V
C213	1-102-114-00	CERAMIC	470PF	10%	50V
C214	1-102-114-00	CERAMIC	470PF	10%	50V
C215	1-102-114-00	CERAMIC	470PF	10%	50V
C216	1-102-114-00	CERAMIC	470PF	10%	50V
C217	1-102-114-00	CERAMIC	470PF	10%	50V
C218	1-124-120-11	ELECT	220MF	20%	25V
C219	1-123-875-11	ELECT	10MF	20%	50V
C301	1-124-556-11	ELECT	2200MF	20%	16V
C302	1-101-004-00	CERAMIC	0.01MF		50V
C303	1-101-004-00	CERAMIC	0.01MF		50V
C304	1-124-480-11	ELECT	470MF	20%	25V
C305	1-101-004-00	CERAMIC	0.01MF		50V
CF1	1-577-326-81	FILTER, CERAMIC			
CF3	1-577-326-81	FILTER, CERAMIC			
CT5	1-141-245-00	CAP, TRIMMER			
CT6	1-141-245-00	CAP, TRIMMER			
CV1	1-151-372-21	CAP, TUNING, POLYETHYLENE			
CV2	1-151-372-21	CAP, TUNING, POLYETHYLENE			
CV3	1-151-372-21	CAP, TUNING, POLYETHYLENE			
CV4	1-151-372-21	CAP, TUNING, POLYETHYLENE			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D101	8-719-911-19	DIODE 1SS119			
D102	8-719-911-19	DIODE 1SS119			
D201	8-719-109-93	DIODE RD6.2ES-B2			
D202	8-719-110-03	DIODE RD7.5ESB2			
D203	8-719-911-19	DIODE 1SS119			
D204	8-719-911-19	DIODE 1SS119			
D205	8-719-911-19	DIODE 1SS119			
D206	8-719-911-19	DIODE 1SS119			
D207	8-719-911-19	DIODE 1SS119			
D208	8-719-911-19	DIODE 1SS119			
D209	8-719-911-19	DIODE 1SS119			
D211	8-719-911-19	DIODE 1SS119			
D212	8-719-911-19	DIODE 1SS119			
D213	8-719-911-19	DIODE 1SS119			
D214	8-719-911-19	DIODE 1SS119			
D215	8-719-911-19	DIODE 1SS119			
D216	8-719-907-87	DIODE PR5638S (RADIO)			
D217	8-719-907-87	DIODE PR5638S (BUZZER)			
D301	8-719-200-02	DIODE 10E2			

Ref.No.	Part No.	Description			
D302	8-719-200-02	DIODE 10E2			
D303	8-719-200-02	DIODE 10E2			
D304	8-719-200-02	DIODE 10E2			
D305	8-719-200-02	DIODE 10E2			
F301	⚠1-532-286-00	FUSE, TIME-LAG (2.5A)			
FL201	1-519-271-21	INDICATOR TUBE, FLUORESCENT			
IC1	8-752-035-68	IC CXA1238S			
IC2	8-759-132-40	IC UPC324C			
IC101	8-759-820-22	IC LA4597			
IC102	8-759-820-22	IC LA4597			
IC201	1-807-266-11	IC LM8364			
J1	1-562-837-21	JACK (LINE IN)			
L1	*1-422-021-00	COIL, AIR-CORE			
L3	*1-426-074-00	COIL, FM RF (A)			
L4	*1-422-230-11	COIL, VHF			
L5	1-406-042-00	COIL, FM OSC			
L6	1-406-028-00	COIL, OSC (MW)			
L7	1-401-228-00	ANTENNA COIL			
L8	1-402-276-11	ANTENNA, FERRITE-ROD (LW/MW)			
L9					
L101	1-543-236-11	BEAD, FERRITE			
L301	*1-422-229-11	COIL, AIR-CORE			
L302	*1-422-229-11	COIL, AIR-CORE			
L303	*1-408-570-11	INDUCTOR	39UH		
Q101	8-729-119-76	TRANSISTOR 2SA1175HFE			
Q102	8-729-119-78	TRANSISTOR 2SC2785HFE			
Q103	8-729-119-78	TRANSISTOR 2SC2785HFE			
Q104	8-729-119-78	TRANSISTOR 2SC2785HFE			
Q105	8-729-119-78	TRANSISTOR 2SC2785HFE			
Q201	8-729-119-78	TRANSISTOR 2SC2785HFE			
Q202	8-729-119-76	TRANSISTOR 2SA1175HFE			
Q203	8-729-116-57	TRANSISTOR 2SB1608-K			
Q204	8-729-900-36	TRANSISTOR DTC124ES			
Q205	8-729-900-36	TRANSISTOR DTC124ES			
R1	1-249-417-11	CARBON	1K	5%	1/4W
R2	1-249-424-11	CARBON	3.9K	5%	1/4W
R3	1-249-393-11	CARBON	10	5%	1/4W
R4	1-249-429-11	CARBON	10K	5%	1/4W
R5	1-247-887-00	CARBON	220K	5%	1/4W
R6	1-249-421-11	CARBON	2.2K	5%	1/4W
R7	1-249-441-11	CARBON	100K	5%	1/4W
R8	1-249-421-11	CARBON	2.2K	5%	1/4W
R9	1-249-427-11	CARBON	6.8K	5%	1/4W
R10	1-249-434-11	CARBON	27K	5%	1/4W
R11	1-249-427-11	CARBON	6.8K	5%	1/4W
R12	1-247-887-00	CARBON	220K	5%	1/4W
R13	1-249-437-11	CARBON	47K	5%	1/4W
R14	1-249-437-11	CARBON	47K	5%	1/4W
R15	1-249-441-11	CARBON	100K	5%	1/4W
R16	1-249-434-11	CARBON	27K	5%	1/4W
R17	1-249-434-11	CARBON	27K	5%	1/4W
R18	1-249-441-11	CARBON	100K	5%	1/4W
R19	1-249-405-11	CARBON	100	5%	1/4W
R20	1-249-422-11	CARBON	2.7K	5%	1/4W
R21	1-249-417-11	CARBON	1K	5%	1/4W

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			
R22	1-249-429-11	CARBON	10K	5%	1/4W
R23	1-249-429-11	CARBON	10K	5%	1/4W
R24	1-249-435-11	CARBON	33K	5%	1/4W
R25	1-249-441-11	CARBON	100K	5%	1/4W
R26	1-249-431-11	CARBON	15K	5%	1/4W
R27	1-249-431-11	CARBON	15K	5%	1/4W
R28	1-249-441-11	CARBON	100K	5%	1/4W
R29	1-247-883-00	CARBON	150K	5%	1/4W
R30	1-249-422-11	CARBON	2.7K	5%	1/4W
R31	1-249-417-11	CARBON	1K	5%	1/4W
R32	1-249-429-11	CARBON	10K	5%	1/4W
R33	1-249-429-11	CARBON	10K	5%	1/4W
R34	1-249-435-11	CARBON	33K	5%	1/4W
R35	1-249-417-11	CARBON	1K	5%	1/4W
R36	1-249-441-11	CARBON	100K	5%	1/4W
R37	1-247-883-00	CARBON	150K	5%	1/4W
R38	1-249-441-11	CARBON	100K	5%	1/4W
R39	1-247-903-00	CARBON	1M	5%	1/4W
R40	1-249-441-11	CARBON	100K	5%	1/4W
R41	1-249-441-11	CARBON	100K	5%	1/4W
R42	1-249-441-11	CARBON	100K	5%	1/4W
R43	1-247-903-00	CARBON	1M	5%	1/4W
R44	1-249-441-11	CARBON	100K	5%	1/4W
R45	1-247-883-00	CARBON	150K	5%	1/4W
R46	1-247-880-11	CARBON	110K	5%	1/4W
R47	1-249-441-11	CARBON	100K	5%	1/4W
R48	1-249-441-11	CARBON	100K	5%	1/4W
R49	1-249-429-11	CARBON	10K	5%	1/4W
R50	1-249-427-11	CARBON	6.8K	5%	1/4W
R101	1-249-417-11	CARBON	1K	5%	1/4W
R102	1-249-417-11	CARBON	1K	5%	1/4W
R103	1-249-433-11	CARBON	22K	5%	1/4W
R104	1-249-410-11	CARBON	270	5%	1/4W
R105	1-249-410-11	CARBON	270	5%	1/4W
R106	1-249-433-11	CARBON	22K	5%	1/4W
R109	1-249-402-11	CARBON	56	5%	1/4W
R110	1-249-411-11	CARBON	330	5%	1/4W
R111	1-249-387-11	CARBON	3.3	5%	1/4W
R112	1-249-429-11	CARBON	10K	5%	1/4W
R113	1-249-387-11	CARBON	3.3	5%	1/4W
R114	1-249-433-11	CARBON	22K	5%	1/4W
R115	1-249-411-11	CARBON	330	5%	1/4W
R116	1-249-425-11	CARBON	4.7K	5%	1/4W
R117	1-247-895-00	CARBON	470K	5%	1/4W
R118	1-249-417-11	CARBON	1K	5%	1/4W
R119	1-249-411-11	CARBON	330	5%	1/4W
R121	1-249-430-11	CARBON	12K	5%	1/4W
R122	1-249-429-11	CARBON	10K	5%	1/4W
R123	1-249-441-11	CARBON	100K	5%	1/4W
R124	1-249-429-11	CARBON	10K	5%	1/4W
R125	1-249-433-11	CARBON	22K	5%	1/4W
R126	1-249-433-11	CARBON	22K	5%	1/4W
R127	1-249-429-11	CARBON	10K	5%	1/4W
R128	1-249-431-11	CARBON	15K	5%	1/4W
R200	1-249-413-11	CARBON	470	5%	1/4W
R201	1-249-413-11	CARBON	470	5%	1/4W
R202	1-249-421-11	CARBON	2.2K	5%	1/4W

Ref.No.	Part No.	Description			
R203	1-249-425-11	CARBON	4.7K	5%	1/4W
R204	1-249-425-11	CARBON	4.7K	5%	1/4W
R205	1-249-415-11	CARBON	680	5%	1/4W
R206	1-249-435-11	CARBON	33K	5%	1/4W
R207	1-249-429-11	CARBON	10K	5%	1/4W
R208	1-249-433-11	CARBON	22K	5%	1/4W
R209	1-249-429-11	CARBON	10K	5%	1/4W
R210	1-249-405-11	CARBON	100	5%	1/4W
R211	1-247-883-00	CARBON	150K	5%	1/4W
R212	1-249-428-11	CARBON	8.2K	5%	1/4W
R213	1-249-441-11	CARBON	100K	5%	1/4W
R214	1-249-418-11	CARBON	1.2K	5%	1/4W
R215	1-249-421-11	CARBON	2.2K	5%	1/4W
R216	1-249-429-11	CARBON	10K	5%	1/4W
R217	1-249-429-11	CARBON	10K	5%	1/4W
R218	1-249-429-11	CARBON	10K	5%	1/4W
R219	1-249-433-11	CARBON	22K	5%	1/4W
R220	1-249-433-11	CARBON	22K	5%	1/4W
R221	1-249-433-11	CARBON	22K	5%	1/4W
R222	1-249-433-11	CARBON	22K	5%	1/4W
R223	1-247-903-00	CARBON	1M	5%	1/4W
RV1	1-238-439-11	RES, ADJ, CARBON 20K (VCO)			
RV2	1-238-553-11	RES, VAR, SLIDE 50K/50K (VOLUME)			
RV3	1-238-554-11	RES, VAR, SLIDE 50K (MEGA BASS)			
SP101	1-544-123-11	SPEAKER (R)			
SP102	1-544-123-11	SPEAKER (L)			
SP103	1-544-124-11	SPEAKER			
SW1	1-572-042-11	SWITCH, SLIDE (BAND)			
SW2	1-554-118-00	SWITCH, PUSH (1 KEY)(SURROUND)			
SW201	1-552-370-00	SWITCH, SLIDE (BRIGHT)			
T1	1-236-079-11	ENCAPSULATED COMPONENT			
T301	⚠1-449-793-11	(AEP)...TRANSFORMER, POWER			
T301	⚠1-449-795-11	(UK)....TRANSFORMER, POWER			

ACCESSORY & PACKING MATERIAL

*3-701-620-00	BAG, POLYETHYLENE
3-750-421-11	MANUAL, INSTRUCTION
*3-901-526-01	CUSHION (LEFT)
*3-901-527-01	CUSHION (RIGHT)
*3-901-530-01	(AEP)...INDIVIDUAL CARTON
*3-901-531-01	(UK)....INDIVIDUAL CARTON

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Audio Group

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